

<110> Anderson, J C
Wu, Ning
Santoro, Stephen
Schultz, Peter G

<120> COMPOSITIONS OF ORTHOGONAL LYSYL-tRNA AND AMINOACYL-tRNA
SYNTHETASE PAIRS AND USES THEREOF

<130> 54-000330PC

<140> PCT/US 04/022187

<141> 2004-07-07

<160> 37

<170> PatentIn version 3.2

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Tyr Val His Val Gly Asn Phe Arg Glu Leu Phe Thr Ala Tyr Ile Val
35 40 45

Gly His Ala Leu Arg Asp Lys Gly Tyr Glu Val Arg His Ile His Met
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Trp Asp Asp Tyr Asp Arg Phe Arg Lys Val Pro Arg Asn Val Pro Gln
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Glu Trp Lys Asp Tyr Leu Gly Met Pro Ile Ser Glu Val Pro Asp Pro
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Trp Gly Cys His Glu Ser Tyr Ala Glu His Phe Met Arg Lys Phe Glu
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Glu Glu Val Glu Lys Leu Gly Ile Glu Val Asp Phe Leu Tyr Ala Ser
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Glu Leu Tyr Lys Arg Gly Glu Tyr Ser Glu Glu Ile Arg Leu Ala Phe
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Glu Lys Arg Asp Lys Ile Met Glu Ile Leu Asn Lys Tyr Arg Glu Ile
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Ala Lys Gln Pro Pro Leu Pro Glu Asn Trp Trp Pro Ala Met Val Tyr
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Cys Pro Glu His Arg Arg Glu Ala Glu Ile Ile Glu Trp Asp Gly Gly
180 185 190

Trp Lys Val Lys Tyr Lys Cys Pro Glu Gly His Glu Gly Trp Val Asp
195 200 205

Ile Arg Ser Gly Asn Val Lys Leu Arg Trp Arg Val Asp Trp Pro Met
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Arg Trp Ser His Phe Gly Val Asp Phe Glu Pro Ala Gly Lys Asp His
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Leu Val Ala Gly Ser Ser Tyr Asp Thr Gly Lys Glu Ile Ile Lys Glu
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Val Tyr Gly Lys Glu Ala Pro Leu Ser Leu Met Tyr Glu Phe Val Gly
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Ile Tyr Ala Arg His Arg Pro Asn Lys Glu Ile Lys Ile Asp Leu Gly
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Leu Gly Ile Leu Asn Leu Tyr Asp Glu Phe Asp Lys Val Glu Arg Ile
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Tyr Val His Val Gly Asn Phe Arg Glu Leu Phe Thr Ala Tyr Ile Val
35 40 45

Gly His Ala Leu Arg Asp Lys Gly Tyr Glu Val Arg His Ile His Met
50 55 60

Trp Asp Asp Tyr Asp Arg Phe Arg Lys Val Pro Arg Asn Val Pro Gln
65 70 75 80

Glu Trp Lys Asp Tyr Leu Gly Met Pro Ile Ser Glu Val Pro Asp Pro
85 90 95

Trp Gly Cys His Glu Ser Tyr Ala Glu His Phe Met Arg Lys Phe Glu
100 105 110

Glu Glu Val Glu Lys Leu Gly Ile Glu Val Asp Phe Leu Tyr Ala Ser
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Glu Leu Tyr Lys Arg Gly Glu Tyr Ser Glu Glu Ile Arg Leu Ala Phe
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 Cys Pro Glu His Arg Arg Glu Ala Glu Ile Ile Glu Trp Asp Gly Gly
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 Trp Lys Val Lys Tyr Lys Cys Pro Glu Gly His Glu Gly Trp Val Asp
 195 200 205
 Ile Arg Ser Gly Asn Val Lys Leu Arg Trp Arg Val Asp Trp Pro Met
 210 215 220
 Arg Trp Ser His Phe Gly Val Asp Phe Glu Pro Ala Gly Lys Asp His
 225 230 235 240
 Leu Val Ala Gly Ser Ser Tyr Asp Thr Gly Lys Glu Ile Ile Lys Glu
 245 250 255
 Val Tyr Gly Lys Glu Ala Pro Leu Ser Leu Met Tyr Glu Phe Val Gly
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 Ile Lys Gly Gln Lys Gly Lys Met Ser Gly Ser Lys Gly Asn Val Ile
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 Ile Tyr Ala Arg His Arg Pro Asn Lys Glu Ile Lys Ile Asp Leu Gly
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 Thr Tyr Glu Leu Ser Met Pro Lys Lys Pro Glu Arg Leu Val Ala Gln
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 Ala Pro Phe Arg Phe Leu Ala Val Leu Val Gln Leu Pro His Leu Thr
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 385 390 395 400
 Asp Leu Ser Lys Glu Asp Val Glu Arg Val Lys Leu Arg Ile Asn Leu
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Ala Arg Asn Trp Val Lys Lys Tyr Ala Pro Glu Asp Val Lys Phe Ser
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Ile Leu Glu Lys Pro Pro Glu Val Glu Val Ser Gly Asp Val Arg Glu
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Ala Met Asn Glu Val Ala Glu Trp Leu Glu Asn His Glu Glu Phe Ser
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Val Glu Glu Phe Asn Asn Ile Leu Phe Glu Val Ala Lys Arg Arg Gly
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Ile Ser Ser Arg Glu Trp Phe Ser Thr Leu Tyr Arg Leu Phe Ile Gly
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<223> n is a, c, g, or t

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